

# MONTHLY WEATHER REVIEW.

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## INTRODUCTION.

This REVIEW is based on reports for December, 1892, from 2,893 regular and voluntary observers. These reports are classified as follows: 162 reports from Weather Bureau stations; 44 reports from United States Army post surgeons; 1,984 monthly reports from state weather service and voluntary observers; 219 reports through the Central Pacific Rail-

way Company; 455 marine reports through the co-operation of the Hydrographic Office, Navy Department; 29 reports from Canadian stations; marine reports through the "New York Herald Weather Service"; monthly reports from local services established in all states and territories; and international simultaneous observations. Trustworthy newspaper extracts and special reports have also been used.

## CHARACTERISTICS OF THE WEATHER FOR DECEMBER, 1892.

The month was colder than usual, except along the South Carolina, Georgia, and Florida coasts, where the normal temperature obtained. Over large areas in the central and northwestern districts and the plateau regions the mean temperature was 5° to 7° below the December average.

The severest cold wave of the month overspread the Southern States from the 26th to the 29th. At Corpus Christi, Tex., ice three-fourths inch in thickness formed, and heavy frost killed vegetation. In Louisiana orange trees in southern parishes were slightly nipped. In Florida the line of freezing weather was carried to the vicinity of Titusville on the 29th. The timely warning issued by the Weather Bureau of the approach of this cold wave prompted precautionary measures against damage by cold and frost in interior and northern districts of Florida.

### PRECIPITATION.

The monthly precipitation was deficient, except from the Southwestern States over the Rocky Mountain and plateau regions and in the central valleys of California. The greatest excess in precipitation occurred in western Tennessee, Arkansas, and east-central Texas, where the monthly amount was 7 to 8 inches greater than the December average. The most marked deficiency was noted in New England and the interior of the south Atlantic states, where the monthly precipitation was 2 to 3 inches less than the normal amount.

The greatest depth of snowfall reported was 201 inches at Pikes Peak, Colo. At Olympia, Wash., 52 inches fell, and the monthly snowfall was 40 to 50 inches at points in northern Upper Michigan, central New York, and western Oregon. Heavy rain from the 1st to the 3d flooded streams in California. From the 20th to the 23d a heavy snowstorm prevailed over the north Pacific coast states. Snow fell to a depth of one to two feet over western Washington and northwestern Oregon, blockading railroads. Heavy rain from the 21st to the 25th caused destructive floods in the Sacramento and San Joaquin valleys, California. The cold wave of the 26th to 29th over the Southeastern States was attended by an exceptionally heavy fall of snow. At Norfolk, Va., the total depth of snow, 19 inches, was reported the greatest fall at that place since 1857, and at points in northern Florida the snow was reported the first that had fallen since 1857.

### STORMS.

Exceptionally severe gales prevailed over California from the 1st to the 3d. From 11 a. m. to 5.30 p. m. of the 6th a group of tornadoes visited northeastern Texas. About 11 p. m. of that date a tornado was reported at Paragould, Ark. Destructive gales prevailed over California, Oregon, and Washington from the 20th to the 24th.

### CLOSING OF NAVIGATION.

Navigation was closed by ice at all ports on the Great Lakes, and in the rivers of the Middle and Northern States.

## ATMOSPHERIC PRESSURE (expressed in inches and hundredths).

The distribution of mean atmospheric pressure for December, 1892, as determined from observations taken daily at 8 a. m. and 8 p. m. (75th meridian time), is shown on Chart II by isobars.

In December the atmospheric pressure is usually highest over the middle plateau region and in an area covering eastern Tennessee and adjoining parts of the Carolinas and Georgia, where it is above 30.20, and is lowest over the Gulf of Saint Lawrence, where it is below 29.95. From the extreme northeastern and northwestern parts of the country

the barometric gradient is marked to the Iceland and Bering Sea areas of low pressure, where the normal values are below 29.50 and 29.60, respectively. The pressure increases over the United States, except from the middle plateau region to the north Pacific coast, the most marked increase being shown in the Red River of the North Valley, where it exceeds .05.

In December, 1892, the mean pressure was highest over the middle plateau region, where it was above 30.25, the highest mean reading, 30.30, being noted at Idaho Falls, Idaho. From the middle and northern plateau regions to the middle